



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/044,206	01/11/2002	Jerome Michael Eldridge	MI22-1914	3666
21567	7590	10/21/2003	EXAMINER	
WELLS ST. JOHN P.S. 601 W. FIRST AVENUE, SUITE 1300 SPOKANE, WA 99201			SCHILLINGER, LAURA M	
			ART UNIT	PAPER NUMBER

2813

DATE MAILED: 10/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/044,206

Applicant(s)

ELDRIDGE, JEROME MICHAEL

Examiner

Laura M Schillinger

Art Unit

2813

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 78-92 is/are pending in the application.
- 4a) Of the above claim(s) 86 and 89-92 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 80-84 is/are allowed.
- 6) ☒ Claim(s) 78, 79 and 85 is/are rejected.
- 7) ☒ Claim(s) 87 and 88 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

**This Office Action is in response to Amendment B, filed 7/30/03, in Paper No. 7.**

#### ***Election/Restrictions***

Newly submitted claims 86, and 89-92 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Claims 86, and 89-92 pertain to a distinct species from that of the originally elected claims because they pertain to a rate of transport in relation to a rate of diffusion or permeation/absorption.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 86, 89-92 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

#### ***Terminal Disclaimer***

The terminal disclaimer filed on 8/14/03 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of US Patent 6140200 has been reviewed and is accepted. The terminal disclaimer has been recorded.

#### ***Claim Objections***

Claims 87-88 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 78-79 are rejected under 35 U.S.C. 102(b) as being anticipated by Chiang et al ('548).

In reference to claim 78, Yu teaches a method comprising:

Providing a substrate (Fig.1 (10));

Forming a sacrificial mass over the substrate (Fig.1 (18));

Forming a layer over the mass (Fig.1 (34)); and

Subjecting the mass to conditions wherein a component of the mass transports from the mass into the layer to form a mixture of the layer and the component (Col.2, lines: 25-35), and wherein transporting the component leaves an enclosed void region between the substrate and the mixture of the layer and the component (Fig.1 (void)).

In reference to claim 79, Yu teaches wherein the layer comprises silicon nitride (Col.2, lines: 25-30).

In reference to claim 85, Yu et al teaches wherein the layer is configured to absorb the sacrificial mass (Col.5, lines: 55-60).

***Allowable Subject Matter***

The following is a statement of reasons for the indication of allowable subject matter: Claims 80-84 are allowable over prior art, in acceptance of Applicant's terminal disclaimer which results in a withdrawal of the Examiner's obvious double patenting rejection. Further it should be noted that the hermetically sealed void region is the result of the overlying metal region acts as such a seal. Chiang ('896) and Yu ('548) both fail to teach an overlying metal layer which would act to hermetically seal the void region and therefore claims 80-84 and newly added claims 87-88 contain this allowable subject matter.

***Response to Arguments***

Applicant's arguments filed 8/14/03 have been fully considered but they are not persuasive. Applicant argues that claim 78 should be patentable over the ('548) reference because Applicant argues that the sacrificial mass is not transported to form a mixture as recited. However Applicant misconstrues the Examiner's rejection, the sacrificial mass is not the gate oxide rather it is the boron contained within the channel under the gate oxide which are transported and disrupt the function of both the ILD and the gate oxide as described in Col.2 of the '548 reference. It follows that Applicant's second argument is incorrect, because the diffusion of the boron through the gate oxide and out of the gate electrode results in a void formation between the electrode and ILD where the mixture of boron and ILD occurs. (See Col.2)

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura M Schillinger whose telephone number is (703) 308-6425. The examiner can normally be reached on M-T, R-F 7:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl W Whitehead, Jr. can be reached on (703) 308-4940. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

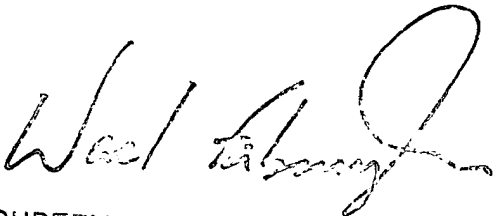
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Application/Control Number: 10/044,206  
Art Unit: 2813

Page 6

LMS

October 19, 2003

  
SUPERVISORY PRIMARY EXAMINER  
TECHNOLOGY CENTER 2800